

REMARKS

The Official Action mailed August 28, 2003, has been received and its contents carefully noted. Filed concurrently herewith is a *Request for One Month Extension of Time*, which extends the shortened statutory period for response to December 28, 2003. Accordingly, the Applicants respectfully submit that this response is being timely filed.

Claims 8-15 were pending in the present application prior to the above amendment. Claims 8-15 have been amended to better recite the features of the present invention, and new claims 16-25 have been added to recite additional protection to which the Applicants are entitled. Accordingly, claims 8-25 are now pending in the present application, of which claims 8, 9, 13-15, 19 and 20 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance.

Initially, please note, on the Form PTO-892 which was provided with the Official Action, the Williams et al. patent is erroneously shown as U.S. Patent No. 6,683,065. The Form PTO-892 should show Williams as U.S. Patent No. 6,583,065. The Applicants respectfully request correction of the Form PTO-892.

Paragraph 2 of the Official Action rejects independent claims 8 and 9 as obvious based on the combination of U.S. Patent No. 5,942,767 to Na et al. and U.S. Patent No. 5,668,370 to Ono et al. The Applicants respectfully submit that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present invention, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some

teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 8 and 9 have been amended to recite an eighth step of etching a transparent conductive film, a conductive film, a second amorphous semiconductor film and a first amorphous semiconductor film to expose a part of the first amorphous semiconductor film, to form a pixel electrode from the transparent conductive film, to form a source wiring from the conductive film and to form a source region and a drain region from the second amorphous semiconductor film. Na appears to show the formation of a TFT with a gate electrode, insulating layer, an undoped Si layer, a doped Si layer and a conducting layer, and Ono appears to show the formation of a TFT with a transparent pixel electrode and an undoped Si layer with a taper. However, Na and Ono, either alone or in combination, do not teach or suggest that a pixel electrode, a source wiring, a source region and a drain region are formed in one step as recited in claims 8 and 9 of the present invention. One advantage of the present invention is to reduce the number of photomasks used for manufacturing a TFT in a liquid crystal display device so as to realize the improvement in productivity and yield (see page 2, lines 16-18). In order to reduce the number of photomasks, a pixel electrode, a source wiring, a source region and a drain region are formed in a single step (the eighth step as recited in claims 8 and 9) using one photomask. Na uses three photomasks without forming a pixel electrode, and Ono uses one photomask to form a pixel electrode. Na and Ono, either alone or in

combination, do not teach or suggest a single step of etching a transparent conductive film, a conductive film, a second amorphous semiconductor film and a first amorphous semiconductor film to expose a part of the first amorphous semiconductor film, to form a pixel electrode from the transparent conductive film, to form a source wiring from the conductive film and to form a source region and a drain region from the second amorphous semiconductor film.

Since Na and Ono do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Paragraph 4 of the Official Action rejects dependent claims 10-12 as obvious based on the combination of Na, Ono, and further in view of U.S. Patent No. 6,583,065 to Williams et al. Williams does not cure the deficiencies in Na and Ono. The Official Action relies on Williams to allegedly teach the use of CF₄, O₂, SF₆ and Cl₂ or mixtures thereof as etchants (page 3, Paper No. 10). Na, Ono and Williams, either alone or in combination, do not teach or suggest a single step of etching a transparent conductive film, a conductive film, a second amorphous semiconductor film and a first amorphous semiconductor film to expose a part of the first amorphous semiconductor film, to form a pixel electrode from the transparent conductive film, to form a source wiring from the conductive film and to form a source region and a drain region from the second amorphous semiconductor film. Since Na, Ono and Williams do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

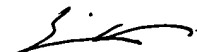
Paragraph 6 of the Official Action rejects claims 13-15 as obvious based on the combination of Na, Ono and Williams. The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 13-15 have been amended to recite etching a transparent

conductive film, a conductive film and a second amorphous semiconductor film to form a pixel electrode, a source wiring, a source region and a drain region. In other words, claims 13-15 recite that a pixel electrode, source wiring, a source region and a drain region are formed in one etching step. Na, Ono and Williams do not teach or suggest etching a transparent conductive film, a conductive film and a second amorphous semiconductor film to form a pixel electrode, a source wiring, a source region and a drain region in a single step. Since Na, Ono and Williams do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

New claims 16-25 have been added to recite additional protection to which the Applicants are entitled. Newly added independent claims 19 and 20 cite the features cited in claims 8 and 9 without step numbers, respectively. The Applicants respectfully submit that new claims 16-25 are in condition for allowance.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



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